



THE JOINT CHIEFS OF STAFF  
WASHINGTON 25, D. C.

100-14148  
14 APR 8 24

RECORDED DATA  
OFFICE OF THE  
SECRETARY OF DEFENSE ATOMIC ENERGY ACT

JCSM-241-61  
7

13 APR 1961

This document consists of 4 pages  
No. 1 of 1 Copies, Series OC

MEMORANDUM FOR THE SECRETARY OF DEFENSE

Subject: Re-examination of the Current and Long-Range  
Department of Defense Requirements for Pro-  
duction of Nuclear Weapons and Fissionable  
Material (U)

1. Reference is made to Item 5 of your memorandum, dated 6 March 1961, which requested a re-examination of the current and long-range requirements for the production of nuclear weapons and fissionable materials.
2. In regard to current requirements, the Joint Staff is now engaged in its annual study of the atomic weapon stockpile composition for FY 1963 and FY 1964 in accordance with the Atomic Energy Commission-Department of Defense production agreement of 1955. This study will be completed by mid-summer. Essential inputs for this action, which include unified and specified commanders' atomic weapons requirement studies, are not yet available. Accordingly, the stockpile composition for FY 1962 forwarded by JCSM-332-60, dated 30 July 1960, was re-examined to determine its validity as a statement of current requirements.
3. The longer range weapon/material estimates contained herein are particularly sensitive to delivery vehicle availability and as a consequence may be influenced by the following studies which are currently under preparation:
  - a. Item 12 of your memorandum, dated 6 March 1961, which requested quantitative requirements for delivery vehicles for strategic weapons.

# 309  
151  
R-2

OASD(PA) DPOISR 80-TS

100-14148-148 copies each

100-14148-149 copies each

100-14148-150 copies each

100-14148-151 copies each

100-14148-152 copies each

100-14148-153 copies each

100-14148-154 copies each

100-14148-155 copies each

100-14148-156 copies each

100-14148-157 copies each

100-14148-158 copies each

100-14148-159 copies each

100-14148-160 copies each

100-14148-161 copies each

100-14148-162 copies each

100-14148-163 copies each

100-14148-164 copies each

100-14148-165 copies each

100-14148-166 copies each

100-14148-167 copies each

100-14148-168 copies each

100-14148-169 copies each

100-14148-170 copies each

100-14148-171 copies each

100-14148-172 copies each

100-14148-173 copies each

100-14148-174 copies each

100-14148-175 copies each

100-14148-176 copies each

100-14148-177 copies each

100-14148-178 copies each

100-14148-179 copies each

100-14148-180 copies each

100-14148-181 copies each

100-14148-182 copies each

100-14148-183 copies each

100-14148-184 copies each

100-14148-185 copies each

100-14148-186 copies each

100-14148-187 copies each

100-14148-188 copies each

100-14148-189 copies each

100-14148-190 copies each

100-14148-191 copies each

100-14148-192 copies each

100-14148-193 copies each

100-14148-194 copies each

100-14148-195 copies each

100-14148-196 copies each

100-14148-197 copies each

100-14148-198 copies each

100-14148-199 copies each

100-14148-200 copies each

100-14148-201 copies each

100-14148-202 copies each

100-14148-203 copies each

100-14148-204 copies each

100-14148-205 copies each

100-14148-206 copies each

100-14148-207 copies each

100-14148-208 copies each

100-14148-209 copies each

100-14148-210 copies each

100-14148-211 copies each

100-14148-212 copies each

100-14148-213 copies each

100-14148-214 copies each

100-14148-215 copies each

100-14148-216 copies each

100-14148-217 copies each

100-14148-218 copies each

100-14148-219 copies each

100-14148-220 copies each

100-14148-221 copies each

100-14148-222 copies each

100-14148-223 copies each

100-14148-224 copies each

100-14148-225 copies each

100-14148-226 copies each

100-14148-227 copies each

100-14148-228 copies each

100-14148-229 copies each

100-14148-230 copies each

100-14148-231 copies each

100-14148-232 copies each

100-14148-233 copies each

100-14148-234 copies each

100-14148-235 copies each

100-14148-236 copies each

100-14148-237 copies each

100-14148-238 copies each

100-14148-239 copies each

100-14148-240 copies each

100-14148-241 copies each

100-14148-242 copies each

100-14148-243 copies each

100-14148-244 copies each

100-14148-245 copies each

100-14148-246 copies each

100-14148-247 copies each

100-14148-248 copies each

100-14148-249 copies each

100-14148-250 copies each

100-14148-251 copies each

100-14148-252 copies each

100-14148-253 copies each

100-14148-254 copies each

100-14148-255 copies each

100-14148-256 copies each

100-14148-257 copies each

100-14148-258 copies each

100-14148-259 copies each

100-14148-260 copies each

100-14148-261 copies each

100-14148-262 copies each

100-14148-263 copies each

100-14148-264 copies each

100-14148-265 copies each

100-14148-266 copies each

100-14148-267 copies each

100-14148-268 copies each

100-14148-269 copies each

100-14148-270 copies each

100-14148-271 copies each

100-14148-272 copies each

100-14148-273 copies each

100-14148-274 copies each

100-14148-275 copies each

100-14148-276 copies each

100-14148-277 copies each

100-14148-278 copies each

100-14148-279 copies each

100-14148-280 copies each

100-14148-281 copies each

100-14148-282 copies each

100-14148-283 copies each

100-14148-284 copies each

100-14148-285 copies each

100-14148-286 copies each

100-14148-287 copies each

100-14148-288 copies each

100-14148-289 copies each

100-14148-290 copies each

100-14148-291 copies each

100-14148-292 copies each

100-14148-293 copies each

100-14148-294 copies each

100-14148-295 copies each

100-14148-296 copies each

100-14148-297 copies each

100-14148-298 copies each

100-14148-299 copies each

100-14148-300 copies each

100-14148-301 copies each

100-14148-302 copies each

100-14148-303 copies each

100-14148-304 copies each

100-14148-305 copies each

100-14148-306 copies each

100-14148-307 copies each

100-14148-308 copies each

100-14148-309 copies each

100-14148-310 copies each

100-14148-311 copies each

100-14148-312 copies each

100-14148-313 copies each

100-14148-314 copies each

100-14148-315 copies each

100-14148-316 copies each

100-14148-317 copies each

100-14148-318 copies each

100-14148-319 copies each

100-14148-320 copies each

100-14148-321 copies each

100-14148-322 copies each

100-14148-323 copies each

100-14148-324 copies each

100-14148-325 copies each

100-14148-326 copies each

100-14148-327 copies each

100-14148-328 copies each

100-14148-329 copies each

100-14148-330 copies each

100-14148-331 copies each

100-14148-332 copies each

100-14148-333 copies each

100-14148-334 copies each

100-14148-335 copies each

100-14148-336 copies each

100-14148-337 copies each

100-14148-338 copies each

100-14148-339 copies each

100-14148-340 copies each

100-14148-341 copies each

100-14148-342 copies each

100-14148-343 copies each

100-14148-344 copies each

100-14148-345 copies each

100-14148-346 copies each

100-14148-347 copies each

100-14148-348 copies each

100-14148-349 copies each

100-14148-350 copies each

100-14148-351 copies each

100-14148-352 copies each

100-14148-353 copies each

100-14148-354 copies each

100-14148-355 copies each

100-14148-356 copies each

100-14148-357 copies each

100-14148-358 copies each

100-14148-359 copies each

100-14148-360 copies each

100-14148-361 copies each

100-14148-

3. Other related studies such as those dealing with limited war and NATO strategy which may have a significant influence on any projections of future requirements for all categories of weapons.

4. The Joint Chiefs of Staff, after re-examining the approved FY 1962 atomic weapons stockpile and analyzing future requirements for atomic weapons and nuclear materials, conclude that:

a. The firm FY 1962 atomic weapons stockpile forwarded to you by JCSM-332-60, dated 30 July 1960, dimensioned by the availability of plutonium, represents the optimum mix of atomic weapons attainable through FY 1962.

b. Estimated weapon and material requirements for FY 1965 are: \* weapons, \* kg or alloy, \* kg plutonium, \* \* tritium, [REDACTED]

c. Estimated weapon and material requirements for FY 1968 are: \* weapons, \* kg or alloy, \* kg plutonium, \* \* tritium, [REDACTED]

d. [REDACTED] were provided with cluster-type warheads by FY 1968, the estimates of paragraph 4 c, above, would be as follows: \* weapons, \* kg or alloy, \* kg plutonium, \* \* tritium, [REDACTED]

5. The Joint Chiefs of Staff consider that there is considerable uncertainty associated with the above estimates of amounts of nuclear materials required. Some of the factors which contribute to this uncertainty are:

a. Whether or not there will be a nuclear test ban. (Testing would enhance the attainment of more economical weapon designs - designs which provide for increased efficiency in the "bursting" of nuclear materials.)

\* Figures will be forwarded by separate memorandum.

~~RESTRICTED DATA~~

ATOMIC ENERGY ACT

~~TOP SECRET~~

b. The extent to which "spiking" of weapons - increasing yield by increasing nuclear material content - may be adopted. "Spiking" is generally an economical way (in terms of over-all weapon system cost) to improve over-all weapon system effectiveness, yet the practice has been limited due to over-all scarcity of nuclear material. However, "spiking" could become increasingly attractive, particularly if the over-all weapon build is to be limited by funds.

c. Uncertainties in the cost in terms of nuclear materials for similar type warheads. For example, [REDACTED] [REDACTED] were similar in weight and yield, but were quite different in the nuclear materials required.

Pu-239

T

Pu-238

O<sub>2</sub>

[REDACTED]

d. New designs (e.g., cluster warhead).

e. Continuing stockpile requirement for large quantities of tritium (a reactor product), which has a short half life (12.5 years).

f. The need for sufficient flexibility to:

(1) Support increased emphasis on certain systems which may be necessitated if a change in military posture of either the United States or the Soviet Union occurs.

(2) React to a major breakthrough in nuclear weapon technology which may occur if nuclear testing is resumed.

6. A review of the Atomic Energy Commission's November 1960 Planning Estimates indicates that the planned production of nuclear material through FY 1966 will fall short of the quantities estimated in paragraph 4, above. However, in view of the tentative nature of this

~~RESTRICTED DATA~~

~~TOP SECRET~~

